

REMARKS**I. Status of the Claims**

Claims 25-33, 35-38 and 50-55 are currently pending in the application. Claims 33 and 36 are objected to; claims 25-32, 35 and 50-55 are rejected; and claims 37 and 38 are withdrawn from consideration.

Claim 31 is amended herein and now is dependant on claim 25. Support for this amendment can be found in claim 10 as originally filed.

II. Rejection under 35 U.S.C. § 112

Claim 31 is rejected as being indefinite since it depends on itself. Claim 31 has been amended herein and now depends on claim 25. Applicants request that this rejection be withdrawn.

III. Rejections under 35 U.S.C. § 102(b) and § 103

The Examiner has rejected claims 25-27, 31-32, 35 and 50-55 as anticipated by, or in the alternative as obvious over WO 92/01380 to Eastwood. The Examiner contends that the instant composition of N containing polycationic polymer matrix with an incorporated non-eluting antimicrobial metallic material, adherent to an article is seen in Eastwood, who provides such compositions as coatings on articles such as wood or leather. The Examiner further states that Eastwood discloses polymeric biguanides and zinc or copper complexes.

The Examiner states that the compounds (including biguanide polymers) are instantly envisioned as crosslinked when cured, and indicates that these coating would contain the same non-eluting characteristics as in the claimed invention to provide antimicrobially protected articles. He further states that the polycationic polymers are those of the instant invention and include the same functional groupings (i.e. carboxylic acid (p.4) and isocyanate groups (p.5)); binding with the East formula I compounds

would occur. More specifically, the Examiner points to Eastwood where a biguanide polymer (component B) is combined with a zinc or copper salt of a thiohydroxamic acid (ZHMT) derivative (component A) and coated on wood or leather.

Applicants respectfully traverse. We understand the Examiner to be arguing that the claim limitations, i.e. (1) the compounds form an adherent antimicrobial coating, and (2) the compounds do not release biocidal amounts of elutables into the surrounding environment, are both inherently found in the Eastwood composition. To be inherent, the feature must be necessarily present in the referenced composition (see *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991). Inherency “may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” (*Id.* at 1269, *internal cites omitted*). Since neither of the above features is necessarily present in the Eastwood compositions, they are not inherent in Eastwood and the claims are not anticipated by Eastwood.

More particularly, the coating onto a wood or leather article is taught as occurring via direct impregnation, coating, or incorporating into a paint, varnish, or lacquer, each of which will penetrate into the pores of the highly porous wood or leather material (Eastwood pg 16). A coating that occurs by impregnation into a porous material does necessarily form an adherent coating as claimed in the present invention. Even if paint, varnish, or lacquer additionally forms a coating on the wood or leather surface, there is nothing to suggest that the Eastwood compositions mixed with the paint varnish or lacquer will form as part of the coating as opposed to penetrating into the pores. Therefore, this claim limitation is not inherent in the Eastwood compositions.

Further, non-release of biocidal amounts of elutables into the surrounding environment is not an inherent property of the Eastwood composition. Each of the environments taught by Eastwood, e.g., cooling water systems, paper mill liquors, metal working fluids, geological drilling lubricants, polymer emulsions, and emulsion paints are

examples of environments that continually release biocidal agents for antimicrobial protection, not environments where the biocidal agents are prevented from being released. Additionally, Eastwood teaches that his compositions provide biocidal activity via a preservative effect, i.e., to “provide good wet state preservation” on coated wood and leather surfaces (Eastwood, pg 15). This statement indicates that the treated surface will leach elutables in order to provide the preservative action asserted.

There is no evidence of or suggestion that any of Eastwood’s coated compositions would elute less than 1 ppm of the biocidal material into a liquid environment (see Application, pg 17). Moreover, the Eastwood compositions will elute significantly. In particular, the zinc or copper salt of a thiohydroxamic acid (ZHMT) is a metal salt, where the zinc or copper binds to the sulfur on the thiohydroxamic acid. This metal salt is then free to interact with a polymer matrix. However, the metal salt is soluble in an aqueous environment and can therefore be displaced by other salts (i.e. a chloride ion from NaCl). Thus, this interchange will cause the zinc to readily elute from the polymer matrix to which the salt may be bound (leaving thiohydroxamic chloride). Comparatively, in an exemplary coating of the present invention, a biguanide moiety forms a ligand complex with AgI; this complex is insoluble in an aqueous environment and does not release biocidal amounts of elutables into the surrounding environment.

Thus, the compositions as disclosed by Eastwood actually have the opposite effect compared to an important aspect of the present claims – the non-release of biocidal amounts of elutables into the surrounding environment. The Eastwood compositions can not anticipate the present invention as each of the claimed limitations are neither disclosed by Eastwood nor inherently found in the Eastwood composition.

The present invention is not obvious over Eastwood. Eastwood cannot be combined with Zeneka, Fox (i.e., the previously cited reference) or the knowledge of one of ordinary skill in the art under 35 USC §103, since this person would have no motivation to combine the references to obtain a coating composition that (1) form an adherent

coating, and (2) do not release biocidal amounts of elutables into the surrounding environment. There is no teaching in either Eastwood or the other known references to suggest that the Eastwood compositions could be modified to form a material that both forms an adherent coating and does not elute significant amounts of the biocidal compound into the surrounding environment.

Accordingly, reconsideration and withdrawal of the present rejection is respectfully requested.

IV. Double-Patenting


Claims 25-32 and 50-55 have been rejected by the Examiner under the judicially created doctrine of obviousness-type double-patenting as being allegedly unpatentable over various claims in commonly-owned U.S. Patent 5,849,311.

In response, it is submitted that a terminal disclaimer will be timely filed upon allowance of any conflicting claims in the instant application.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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